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ABSTRACT

Examination of almost any university's curricular goals or expectations and the actual courses taken by particular students demonstrates significant discrepancies between the rationale and the actuality and between the intentions of general or specialized education and the knowledge made available in the courses taken. A major reason for the existence of these discontinuities lies with the assumption that the organization of the curriculum of higher education should be done in the same manner that the university organizes to do its research and knowledge production. This essay sets forth a plan for organizing the curriculum of higher education that takes into account the difference between academic or disciplinary knowledge and mission-oriented or practical knowledge. This plan is oriented around four types of mission-oriented knowledge: knowledge required as a citizen and human being (servicing the general education function); knowledge required for a specialty or profession; knowledge required to conduct research and advance knowledge itself; and knowledge pertaining to the education of people in these four domains. Contains nine references. (GLR)

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Knowledge and the Educative Functions of a University:

Designing the Curriculum of Higher Education

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Abstract

This essay sets forth a plan for organizing the curriculum of higher education that takes into account the difference between academic or disciplinary knowledge and mission-oriented or practical knowledge. This plan is oriented around four types of mission-oriented knowledge: knowledge required as a citizen and human being (servicing the general education function), knowledge required for a specialty or profession, knowledge required to conduct research and advance knowledge itself, and knowledge pertaining to the education of people in these four domains.

One of the missions of a university is the creation and dissemination of knowledge. Because this work is traditionally divided among scores or even hundreds of academic and research units for the convenience of the producing scholars and the orderly retrieval of this knowledge, the problem of introducing university students to the world of knowledge is frequently seen as a non-problem. That is, all that is necessary, it is assumed, is for students to be exposed to work in the existing academic units one-by-one or in some combination. Curricular requirements generally call for matriculation in a selection of courses offered in the various units designated by reference to some general educational rationale or specialized educational purpose. Examination of almost any university's curricular goals or expectations and the actual courses taken by particular students, however, demonstrates significant discontinuities between the rationale and the actuality, between the intentions of general or specialized education and the knowledge made available in the courses taken. A major reason for the existence of these discontinuities, I contend, lies with the assumption that the organization of the curriculum of higher education should be done in the same manner that the university organizes to do its research and knowledge production. I wish to argue that this is a faulty premise upon which to organize the curriculum and that there are better ways to introduce students to a university's store of knowledge than by this traditional approach, ways that can bring educational purposes and actual learnings more in line with each other and also at the same time maintain a more accurate representation of scholarly knowledge in what a student actually carries away than is the case under the present system.

There are a number of conceptual distinctions that can be made that will be helpful in thinking about the curriculum of higher education and how best to organize it.

The first set of distinctions has to do with the various kinds of knowledge produced by scholarly inquiry, whether in a university or in some other kind of research institution. One type of knowledge is conventional academic knowledge, most frequently referred to as disciplinary knowledge. This type of knowledge is the type generated within a particular discipline, such as chemistry, sociology, or philosophy, by means of the modes of inquiry associated with each of the various disciplines. An enormous variety of these basic disciplines exist. Disciplinary knowledge

is generated by many different universities and agencies around the world that contribute study by study to the body of knowledge accumulated over time in each of these disciplines. Thus, the academic or disciplinary knowledge available for university students to study is vastly more than that which is generated by a particular university's own research efforts within a particular discipline. The discipline-oriented courses offered may or may not attempt to reflect all that is known in a particular discipline, and its expert researchers may or may not be able to instruct students in the entire range of knowledge in that discipline. The types of teaching expertise and research expertise available within a disciplinary unit frequently influences what courses are offered by it rather than any rational statement of curricular intent or purpose. The curricular implications arising from this sort of dilemma will be addressed later in this article, but here it is the nature of disciplinary knowledge itself that should be made clear. This type of knowledge is the result of inquiry focused upon those questions that are answerable by the methods appropriate to each of the various academic disciplines and of accumulating and organizing that work into bodies of disciplinary knowledge (Phenix, 1964; Levine, 1981).

In contrast to disciplinary knowledge, another type of knowledge exists which differs greatly in its derivation and use. This type of knowledge is generally referred to as practical or mission-oriented knowledge. Practical knowledge is the type of knowledge that is associated with various human activities, such as building bridges, educating people, conducting governmental affairs, or maintaining physical or mental health. The need for practical knowledge arises in situations where these and other kinds of human activities pose questions that must be answered before reasonable or successful actions can be taken. They are mission-oriented questions about what might be or should be done to accomplish certain ends and about the actual or potential consequences of taking certain actions. Disciplinary knowledge is not appropriate for dealing with such questions, except perhaps in very indirect ways; a different sort of purpose and inquiry process is required to deal with mission-oriented questions than is required to answer discipline-

oriented questions. Rather than utilizing the purely disinterested intellectual approach of formulating and answering questions which are of the type and form amenable to the cannons and techniques of particular disciplinary forms of inquiry, the practical intent of mission-oriented knowledge presupposes that questions generated in action contexts must be formulated and answered in ways that are commensurate with such contexts and that they cannot be transformed and dealt with successfully by the methods of disciplinary inquiry. To do so would be to distort the reality of such action situations, to risk generating knowledge that is inappropriate to them, and to obscure rather than to properly inform them. Mission-oriented knowledge and inquiry has its own unique requirements and approaches (Storer, 1970; Weinberg, 1967; Short, 1973, pp. 240, 267-275; Short, 1991).

While these two types of knowledge—academic or disciplinary knowledge and practical or mission-oriented knowledge—are clearly quite different from each other and need not be seen in conflict with each other, there is a great deal of confusion about what their relative merits may be and about what their relationship should be in the curriculum of higher education. Before addressing this matter directly, it may be helpful to elaborate more fully on the distinction between these two types of knowledge in order to highlight features of each type that have important curricular implications.

These two types of knowledge, first of all, may be distinguished by the way universities label their academic units. Various academic sciences—physics, chemistry, genetics, etc.—as well as the arts and humanities, the social sciences, history, philosophy, religion, and others are oriented around academic forms of inquiry that result in disciplinary knowledge. Practical or mission-oriented knowledge, on the other hand, is usually organized in academic units labeled by its association with particular human activities: engineering, law, medicine, business, agriculture, politics, education, and other such fields of study. Sub-units in each of these fields bear titles that reflect subcategories of practice in each field. The very fact that these areas have developed

historically above and beyond the usual liberal arts and science disciplines is recognition of the fact that something is very different about the requirements for knowledge in each of these fields of practice that cannot be addressed successfully by merely having access to the standard disciplines.

Academic knowledge is, in fact, discipline-oriented. That is, it is dependent upon the basic approaches of inquiry formulated and employed by the academic disciplines. It tends to be theory-oriented and focused upon solving some intellectual puzzle associated with a question that fits into that scheme of research. Practical-oriented or mission-oriented knowledge is considerably more complicated, both in its applications and in its derivation and creation. It may be interdisciplinary but it also is quite different in character from disciplinary knowledge by virtue of the fact that it is a result of inquiry into questions that cannot be analyzed or broken down into easily researchable parts but must be addressed as a whole. Because of its action-oriented nature, it is not simply created in answer to a purely intellectual question; it is created for use in a practical human activity in which a person must use it judiciously and appropriately in conjunction with a great deal of other practice-oriented knowledge in order to act in a real situation. Nor is the difference between academic and practical knowledge the difference between basic and applied knowledge, resulting from basic and applied research. Applied research usually means the application of disciplinary or basic inquiry approaches to practical fields, which in certain instances may be useful, but the distinction between basic and applied knowledge misses the fact that the kind of questions posed by practical activities are of a different order entirely from those that basic or applied disciplines can deal with successfully.

Another distinction worth making has to do with who is involved in generating these two kinds of knowledge and with the consequences of the way this work is divided up. As has been suggested, the university is the home of much of both kinds of inquiry. In the academic disciplines within the university, we find the research scholar who is basically devoted to the study of sociological questions, historical questions, scientific questions, philosophical questions, etc.

There is very little research of this sort that goes on outside the university except in the case of certain kinds of scientific inquiry which may be conducting in special research centers. Most academic knowledge is put to use by other academics, usually within the university. In the practically-oriented fields of research, on the other hand, much of the inquiry goes on in the universities in the various schools and colleges related to the professions and to other fields of practice activity. However, the full scope of mission-oriented inquiry does not reside within the university; almost anyone who is a practitioner of these various fields may be engaged in some form of knowledge creation that pertains to his own practice or to the field as a whole. Consequently, the body of knowledge that is generated in these fields is quite diverse in its origin and sometimes very difficult to locate and bring together. While some of this knowledge is used in educating practitioners before they enter the field, most of it is used in the real world as practitioners attempt to take particular actions associated with their actual work.

A second major set of distinctions, having to do with the purposes of the university, may also be helpful in thinking about the curriculum of higher education and how to organize it. The creation and dissemination of knowledge is considered to be one of the missions of the university, perhaps even the primary mission, by most, if not all, university students and faculty. Stated this way, however, this assertion is not very helpful in thinking about the university's curriculum; it is too global in character. It would be more useful to keep in mind the kinds of knowledge produced by researchers and the kinds of uses to which that knowledge may be put, as one contemplates how to plan and organize the curriculum.

In my view, the university has four broad functions related to its basic mission of advancing knowledge and preparing people to use it. The first is to provide a general education for all students. General education recognizes the need for all students to acquire the skills and knowledges that are required for citizenship and their activities as human persons. General education is designed to help people interpret their world and use knowledge wisely in a variety of

personal and civic activities. The second function of the university is to provide for the education of specialists. Here the student learns to function in a specialized field of practice as a professional or in some other technical specialty. The third function of the university is to provide for the education of researchers. The university must prepare competent researchers in all specialties, academic disciplines, and fields of study. The fourth function of the university is to provide for the education of educators. Those teachers and professors who work with students in their general education, their specialist education, or in their education as researchers must themselves be educated in their respective tasks.

These four functions may serve as foci for both research and for the curriculum. In the case of research, taking these distinctions seriously, one could assert that the university has the responsibility for generating knowledge of at least four kinds. The first type is knowledge of how to conduct one's activities as a citizen and as a person. The second is knowledge of how to carry out a particular human activity or profession. For example, knowledge of how to teach, knowledge of how to do accounting, how to do commercial art, how to do electrical engineering, and so forth. The third is knowledge of how to conduct research by any one of the several varieties of inquiry approaches that are possible. The fourth is knowledge of how to educate people in the areas of general education, specialist education, researcher education, and educator education.

Note that all of these types of knowledge generation involve mission-oriented or practical kinds of research, as distinguished from academic or disciplinary inquiry. Their orientation would be toward the generation of knowledge related to doing some--acting as citizen and person, acting as a specialist, acting as a researcher, and acting as an educator. This is not to suggest that disciplinary inquiry would have no place in the university but that it would be conducted in relation to any of the four basic functions as it may be appropriate rather than as an enterprise apart. In fact, its chief location would no doubt be in connection with the preparation of disciplinary

researchers (one part of the third function) where the disciplines would maintain their exclusive purpose of producing academic knowledge and of educating persons in how to do this.

Having set forth distinctions between academic and practical knowledge and between the functions of general, specialist, researcher, and educator education in the university, it is now possible to lay out a relatively rational way of structuring the curriculum of higher education.

Regardless of how research and the results of knowledge creation are structured within the university, one cannot simply have research scholars and faculty generate knowledge and teach it and have students learn it in the natural units used to organize the research enterprise. Knowledge must be reorganized in such a way as to match the four educative functions stipulated above. The educational purposes of students will naturally fall in line with one or more of these four educative functions of the university. Coherent curricular programs can be conceived and designed in relation to each of these functions. Students can be expected to understand and readily pursue such programs because they can see the obvious connections between what they are studying or learning and some human activity in which they may wish to engage. Whether students should pursue all four types of programs simultaneously or have them spread out over both undergraduate and graduate years I leave to university faculties to decide, although I would argue that no student's education is complete unless he/she has matriculated through programs of all four types.

Whichever program of studies students may be pursuing at a given time (general education, specialist education, researcher education, or educator education), they must be able to make the knowledge they encounter their own. They must have the opportunity to validate that knowledge by checking and understanding how that knowledge was generated. They must in some way test its validity in practice in their own actions and reflections. And they must not be burdened with the task of confronting and testing knowledge that has not been selected to serve the purposes of the pertinent curricular program, as is often the case in the current configuration of the curriculum. A well-designed college or university curriculum should be organized so that the different types of

knowledge find their proper place in relation to one of the four educational programs with distinct functions.

The form of curriculum organization proposed here calls for knowledge to be selected from appropriate bodies of knowledge and to be reorganized to serve the purposes of the practical mission-oriented programs of study. For example, in a program of general education, knowledge would be sought from any discipline or field of study which is considered relevant to the task of learning to act as citizen and human person. Research on this particular dimension of human activity (one of the mission-oriented fields of inquiry) would shed light on just what specific practical and theoretical or disciplinary knowledge might best serve the purposes of general education and how it might efficaciously be organized. Unfortunately, in the past there has been very little systematic study of general education and, consequently, little understanding of what knowledge may be required to achieve the goals of generation education (Toombs and Tierney, 1991). In this proposed pattern of relating research and the curriculum, there is some hope of obtaining helpful answers to questions about the what and the how of general education. Research in other fields of practical education suggests that no form of organizing the content of general education would become the standard pattern but that any pattern would be structured around the various facets of the actual tasks of a citizen and a human person. Each faculty would have to make choices and defend them as persuasively as possible, arranging courses specifically designed to achieve the purposes of general education. No longer could the simple devise of establishing distribution requirements among chunks of available research knowledge be considered adequate for the purposes of general education. Tough decisions about what constitutes an educated person and citizen, tough choices about what knowledge and activities might substantively contribute to that goal, and tough planning on how to design courses and sequences of courses to facilitate the necessary learning would have to be made. With clear goals and a sense of the different kinds of

knowledge that may be relevant to the task, curricular programs in general education should not be as difficult to establish as has been the case in the past in higher education.

Turning now to specialist education, an example will be presented of how a curriculum might look given an understanding of the distinctions in types of knowledge and in university functions stipulated earlier in this article. Learning to be an elementary or secondary teacher will be the focus of this example of a curriculum for a specialized practical human activity. Unlike learning to act as citizen or human person in a program of general education, the knowledge for learning to be a teacher will largely be drawn from the knowledge generated in the mission-oriented field of research on teaching and of the enterprise of education within which teaching occurs. If there is knowledge from the academic disciplines that is pertinent, of course, this will also be included.

We now recognize that learning to teach involves learning from engaging in teaching (Grimmett and Erickson, 1988; Lytle and Cochran-Smith, 1992). Practical know-how results from teaching over time, and doing some inquiry in the midst of one's attempts to teach, and sorting out what works and why. What a teacher decides to do in his/her practice is fed, of course, by knowledge from various sources, for example, by ideas from case reports of what other teachers have done, how they felt about their decisions, and how and why they thought certain things worked the way they did. Knowledge from formal research studies of different practices can also feed into what one attempts to do in circumstances similar to that of the research setting. There is knowledge necessary to conceptualize and interpret recurring teaching situations and phenomena. There is also knowledge from more basic human sciences, such as psychology and sociology, which helps the teacher understand learning theory and the larger social context in which the educational enterprise is embedded. Teachers need knowledge about philosophical values and cultural institutions. Practical knowledge, whether derived from the experience of others or from formal or informal research, must then be tested in personal experience of each teacher.

The curriculum designed for the preparation of teachers should, therefore, be activity-oriented and inquiry-based. It should involve what is called action research and deliberation, taking knowledge from any source that is relevant and deciding what implications this has for the next steps or activities, trying that out, discovering what works and why, devising another effort in light of what has been discovered, and so on. No one can learn this kind of practical knowledge without having some extended experience of this kind. This is in keeping with the basic premise of learning all practical activities. This same general approach may be used in educating people in any field of practical arts or in any profession. If we start with this premise, we should know better what to research, what methods are most appropriate for attaining the knowledge needed, and how to organize this knowledge into a curriculum program directed at specialist education.

The education of researchers is a matter about which many university faculty members have considerable expertise. The design of explicit programs to accomplish this task is, however, not as frequently undertaken as one might suppose, given the high level of faculty expertise in research. The primary vehicle in this domain has been the research apprenticeship. More often than not, however, even this approach has been utilized less frequently than that of assuming that students can grasp the fundamentals of the research process by reading research reports in their specialty or by reading books on research methods. If we recognize that doing research is a practical activity (whether it addresses disciplinary research questions or mission-oriented questions), we will be compelled to design educational programs for researchers in each type of research that are practice-oriented and knowledge-based, just as has been suggested for general education, specialist education, and will also be suggested for educator education. Knowledge should be drawn into these research internships that is derived explicitly from studies of research practices. In addition, knowledge of many kinds may be gleaned from related disciplines or fields of inquiry that may inform the decisions of practice, including knowledge pertaining to ethical questions in research, technical knowledge related to research tools and techniques, philosophical knowledge related to

making and justifying knowledge claims of pertinent types, etc. All too many researchers are equipped with a modicum of understanding about how to do their particular kind of research and are left to stumble and recover on their own from their lack of thorough preparation. Systematic programs for educating researchers are necessary if the quality of research and knowledge generation is to be improved. As with the other educative functions of the university, the education of researchers should not be left to chance.

Finally, the education of educators is a domain of the curriculum of higher education that is most often ignored. This domain pertains to the education of those who will prepare general education faculty members, specialized education faculty members, research education faculty members, and educator education faculty members. Ordinarily this task is placed with the graduate faculty, but their expertise is largely in research methods or in a special field of knowledge and not in the knowledge and skills of how to teach people to act as faculty members or educators in any of the four kinds of curricular programs. The few exceptions to this dearth of experience and expertise may be in certain graduate faculty members in teacher education or in higher education departments who have specifically acquired expertise in preparing people for these roles. The point of highlighting this as a valuable educative function for which curricula should be available is based once again on the fact that knowledge is being generated about this process which could and should be utilized systematically in preparing such educators of faculty for higher education. Such persons should be the most knowledgeable and skilled in the arts of fulfilling one or more of the four educative functions of higher education. The absence of the appropriate research knowledge related to this task, curricula to prepare people to carry out these functions as high quality professionals, or curricula within which their students may acquire their own university education is bound to leave negative effects throughout the entire higher education system.

I have tried to suggest some of the logical implications for reordering the curriculum of higher education institutions that might follow from making certain distinctions about different

types of knowledge and about various functions of the university. I have proposed that appropriately selected and organized knowledge can better serve to fulfill the four-fold educative functions of the university if that knowledge is set in curricula that embrace a practical rather than an academic purpose in each case. Perhaps, paradoxically, this can transform the often technical and sometimes limited orientations of programs in general, specialized, researcher, and educator education into more liberalizing and truly educative pursuits for all university students.

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